

Date last revised – April 21, 2008

DRAFT TEMPLATE MITIGATION BANKING INSTRUMENT

This is a template instrument for a single Mitigation Bank site. It is not a template for an umbrella Mitigation Bank.

The purpose of this template is to expedite review of the proposed instrument by the Interagency Review Team (IRT) agencies. It is possible to deviate from the template, but any and all deviations should be clearly marked (highlighted or red-lined) to facilitate review.

The italicized text in this template is intended as instructions to the Sponsor and the IRT members.

This Banking Instrument, which describes the establishment, use, operation, and maintenance of Wetlands Bank (hereinafter, the "Bank") is an agreement (the "Agreement") made and entered into by and among _____ (hereinafter, "Sponsor"), the U.S. Army Corps of Engineers ("Corps"), the U.S. Environmental Protection Agency ("EPA"), the U.S. Fish and Wildlife Service ("FWS"), the Virginia Department of Environmental Quality ("DEQ"), and the Virginia Marine Resources Commission ("VMRC"), as applicable.

I. PREAMBLE

A. Purpose: Whereas, the purpose of this Banking Instrument is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of the Bank. The Bank will be used for compensatory Mitigation for unavoidable impacts to waters of the United States including wetlands that result from activities authorized under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:5 of the Code of Virginia provided such activities have met all applicable requirements and are authorized by the appropriate authority.

B. Goals and Objectives: Whereas, Clearly define *the goals and objectives of the Bank in terms of Functions and values, such as education/research, erosion control, fisheries/wildlife habitat, flood conveyance/flood storage, channel dimension, pattern, profile, stability, streambank stability, aquatic and riparian habitat, open space/aesthetics, recreation, rare or threatened and endangered species, water quality, etc. Goals and objectives should be expressed as acres of wetlands, vegetation type, and wetland classes (Cowardin or HGM classifications) stream type (Rosgen classification, Strahler order, Cowardin classification), channel length, riparian buffer width, etc.. The goals and objectives of any proposed buffer areas should be specified (to filter sediments, to protect the Mitigation site from adjacent development, to provide stream stability, etc.).*

C. Location and Ownership of Parcel: (1) Whereas, the Sponsor has acquired , or secured by easement or other sufficient property interest _____ acres of land in _____, Virginia, as shown on the vicinity map (Exhibit A) and as depicted on a plan prepared by _____, dated _____, (Exhibit B). Said parcels are hereinafter referred to as the "Property." (2) The Sponsor may elect to acquire additional lands in the _____ watershed by proposing a Bank Development Plan for each

new parcel as an amendment to this Banking Instrument.

Provide a legal description of the Property that includes a reference to the deed and Plat and if applicable, provide a copy of the Plat depicting the limits of the proposed bank (Exhibit C). Identify all easements, encumbrances, and liens.

The Sponsor is required to obtain a title search to show all liens, easements, rights of way, or other encumbrances as well as the history of property ownership that will affect rights to develop the Property as planned and the ability to place deed restrictions on the Property.

D. Project Description: Whereas, in accordance with this Banking Instrument, the Sponsor will establish and/or maintain aquatic habitats and upland buffers in compliance with the provisions of this Banking Instrument and the Bank Development Plan (Exhibit C), and shall then maintain each phase of the Bank in such condition for ten (10) years. The bank sponsor shall be responsible for compliance with this Mitigation Banking Instrument and the Bank Development Plan until the Bank is closed in accordance with the Bank Closure Procedures or until all Credits are sold, whichever is later. The Bank area shall consist of a mixture of _____ as described in Exhibit C.

E. Site Selection Factors: Whereas, the Bank area has been evaluated in terms of the Virginia Offsite Mitigation Site Location Guidelines (dated February 12, 2008, or subsequent versions). The results of the evaluation are described in Exhibit H.

F. Baseline Conditions: Whereas, the Bank area is currently dominated by _____. These features will be modified so as to re/establish wetland conditions and/or, functions, or to restore, enhance, or preserve an existing wetland or stream system on this site.

Provide a baseline description of the Property in this section, including acreage and cover type descriptions and boundary survey. Where stream mitigation channel restoration or bank stabilization is proposed, provide a survey of channel cross-section, form, and profile indicative of each stream type, condition class, or order as determined in the field or reference reach. Indicate whether the Property has been inspected and the baseline conditions verified.

Baseline surveys should be sufficient to develop a bank development plan and support the goals of the bank (e.g. aquatic macroinvertebrates, water quality, economic analyses)

G. Establishment and Use of Credits: Whereas, in accordance with the provisions of this Banking Instrument and upon satisfaction of the Success Criteria contained herein, Mitigation Credits determined in accordance with Exhibit D of this Banking Instrument will be available to be used as Mitigation in accordance with all applicable requirements for permits issued under Section 401 and 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:5 of the Code of Virginia. The number of Credits available will be determined based upon the final approved design and the resulting habitats planned for each phase of the Bank in accordance with the terms and conditions contained herein.

H. Whereas, as of the date of the Agreement and subject to execution of the Agreement by a duly

authorized representative of the participating agencies described below, the Interagency Review Team (IRT) consists of:

1. Corps, Chair, represented by _____; and
2. EPA, represented by _____; and
3. FWS, represented by _____; and
4. DEQ, represented by _____; and
5. Virginia Department of Game and Inland Fisheries (“VDGIF”), represented by _____; and
6. VMRC represented by _____; and
7. Virginia Institute of Marine Sciences (“VIMS”) represented by _____;
8. Virginia Department of Conservation and Recreation (“DCR”) represented by _____;
10. Virginia Department of Forestry (“DOF”) represented by _____; and
9. The City/County of _____, represented by _____.

Each entity represented on the IRT may replace its representative upon written notice to the IRT chair, the other IRT members, and the Sponsor.

I. Disclaimer: Whereas, this Banking Instrument does not in any manner affect statutory authorities and responsibilities of the signatory parties.

J. Exhibits: Whereas, the following Exhibits are incorporated by reference to this Banking Instrument:

1. “Exhibit A,” Vicinity Map
2. “Exhibit B,” Initial Phase Plan;
3. “Exhibit C,” Bank Development Plan;
4. “Exhibit D,” Crediting and Debiting Procedure for the Bank;
5. “Exhibit E,” Service Area Map;
6. “Exhibit F,” Restrictive Covenant; and
7. “Exhibit G,” Financial Assurance - Escrow Agreement.
8. “Exhibit H,” Virginia Offsite Mitigation Location Guidelines Analysis

Add any appropriate documents regarding title.

NOW, THEREFORE, the parties hereto agree as to the following:

II. DEFINITIONS*

1. **BANK SPONSOR** – Any public or private entity responsible for establishing, and in most circumstances operating a Mitigation Bank.
2. **BANK DEVELOPMENT PLAN** – The overall plan governing establishment, Restoration, Creation, Enhancement, and/or Preservation of aquatic resources and associated upland buffers on the Bank Site.
3. **BANKFULL EVENT** – The storm event that corresponds with the stream stage at its incipient point of flooding. The bankfull discharge associated with the Bankfull Event is the flow that transports the majority of a stream’s sediment load over time and thereby forms and maintains the channel dimension, pattern, and profile.
4. **BUFFER** – Those areas located adjacent to and landward of either the top of a stream bank or wetlands.
5. **BUFFER ENHANCEMENT** – Improvements to buffers areas including supplemental plantings.
6. **BUFFER RESTORATION** – Establishment of buffer areas where none were previously present. Buffer establishment includes planting native species and associated measures such as fencing, posting, and livestock exclusion.
7. **BUFFER REESTABLISHMENT** – Removal of invasive species in a buffer and then replanting with native species.
8. **COMPENSATION** – Actions taken which have the effect of substituting some form of aquatic resource for those lost or significantly disturbed due to a permitted development activity; generally aquatic resource Preservation, Restoration, or Creation.
9. **CREATION** – The establishment of an aquatic resource, such as a wetland where one did not formerly exist.
10. **CREDIT** – A unit of measure representing an accrual or attainment of aquatic resource function, condition, or other performance measure at a Mitigation Bank.
11. **DEBIT** – A unit of measure representing the reduction of credits at the Mitigation Bank corresponding to the impact at a permitted project site.
12. **ESCROW AGREEMENT** – An agreement by which two parties assent to the deposit of a sum of money with instructions for conditional delivery under stipulated circumstances.
13. **FINANCIAL ASSURANCES** – A mechanism or instrument used to guarantee some aspect of the Bank. Financial Assurances may include an escrow account or other mechanism acceptable to the IRT. There may be 3 different Financial Assurances associated with a Mitigation Bank: a) A mechanism to guarantee an advance release of Mitigation Bank Credits; b) The Maintenance and Monitoring Fund; and c) The Catastrophic Event and Long-Term Management Fund.
14. **FUNCTIONS** – The physical, chemical, and biological ecosystem processes of an aquatic resource without regard to their importance to society.
15. **INTERAGENCY REVIEW TEAM (or IRT)** – An interagency group of federal, state, tribal, and/or local regulatory and resource agency representatives which participate in the development of a Banking instrument and oversee the establishment, use, and operation of a Mitigation Bank with the Corps serving as chair. For tidal wetland Mitigation Banks, the Corps and VMRC will serve as co-chairs.
16. **LEDGER** – An accounting of Credits and Debits.

17. **LONG-TERM STEWARD** – The landowner or easement holder of the Bank lands charged with long-term maintenance and management responsibility. A Long-Term Steward may be designated once Success Criteria monitoring (typically monitoring for 10 years following completion of grading) has been completed. In some cases, the Sponsor may also be the Long-Term Steward.
18. **MITIGATION** – Sequentially avoiding impacts, minimizing impacts, and compensating for remaining impacts to aquatic resources.
19. **MITIGATION BANK** – A site or sites where aquatic resources are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory Mitigation in advance of authorized impacts to similar resources.
20. **MITIGATION BANK INSTRUMENT (MBI)** - the legal document governing the establishment, operation, and use of a commercial mitigation bank, a single-client mitigation bank, or a single-user mitigation bank
- 15.
21. **MITIGATION SITE PLAN** – A detailed portion of the Bank Development Plan that identifies specifically how aquatic resources and associated upland buffers will be restored, created, enhanced, or preserved on the Mitigation Bank.
22. **MITIGATION PERFORMANCE** – The outcome of applying success criteria to a mitigation site in terms of identified goals and objectives.
23. **MONITORING YEAR 1 (ONE)** – The end of the first complete growing season following completion of construction activities, including planting.
24. **ORDINARY HIGH WATER MARK**- that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
25. **PRESERVATION** – The protection of ecologically important aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation will include protection of upland areas adjacent to wetlands and/or riparian areas adjacent to stream channels or other aquatic resources as necessary to ensure protection and/or Enhancement of the aquatic ecosystem.
26. **STREAM PRESERVATION** –Protection of ecologically important streams in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation includes the protection of riparian areas adjacent to streams as necessary to ensure protection or enhancement of the overall stream. The stream system must be a high quality, relatively undisturbed system that requires little or no enhancement activities.
27. **SUCCESS CRITERIA** – The minimum standards required to meet the objectives for which the Bank was established.
28. **STREAM ENHANCEMENT**
- Stream Enhancement and Bank Stabilization** – Enhancement activities include physical alterations to the channel that do not constitute Restoration but directly augment channel stability, water quality, and stream ecology in accordance with a reference condition, where appropriate. These activities may include in-stream and/or streambank activities, but fall short of restoring one or more of the geomorphic variables: dimension, pattern and profile. Included in Stream Enhancement are habitat structures, bio-remediation activities, streambank plantings (below top of bank), and creation of bankfull benches.

Stream Enhancement with Structures - This activity includes structures that are specifically designed and result in grade control and/or bank stabilization. Accepted structures include, but are not limited to cross-vanes, j-hook vanes, native material revetments, W rock weirs, rock vortex weirs, log-vanes, constructed riffles, and step-pools. These structures may be created out of appropriate sized rock or logs, boulders or cobbles based on the size of the stream and the flow regime.

29. **STREAM RESTORATION** - Converting an unstable, altered, or degraded stream corridor, including adjacent riparian zone (buffers) and flood-prone areas, to its natural stable condition considering recent and future watershed conditions. This process should be based on a reference condition/reach for the stream valley type and includes restoring the appropriate geomorphic dimension (cross-section), pattern (sinuosity), and profile (channel slopes), as well as reestablishing the biological and chemical integrity, including transport of the water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.
30. **WETLAND ENHANCEMENT** – Activities conducted in existing wetlands, which increase one or more aquatic Functions.
31. **WETLAND RESTORATION** – Re-establishment of wetland characteristics or Function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

* Derived from:

Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks (FR V. 60 No. 228, November 28, 1995);

Guidelines for Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VA Admin. Code 20-390-10 et. seq.);

Cowardin, L.M. et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U. S. Fish and Wildlife Service, Office of Biological Services. Washington, D.C. FWS/OBS-79/31. 131 pp.

North Carolina Stream Mitigation Guidelines (April 2003)

http://www.saw.usace.army.mil/WETLANDS/Mitigation/stream_mitigation.html

Unified Stream Methodology (January 18, 2007)

<http://www.deq.virginia.gov/wetlands/mitigate.html#usm>

Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR Part 332 and 40 CFR Part 230 (FR V. 73 No. 70, April 10, 2008).

III. AUTHORITIES

The establishment, use, operation and maintenance of the Bank is carried out in accordance with the following authorities:

A. Federal:

1. Clean Water Act (33 USC 1251 et seq.);
2. Rivers and Harbors Act (33 USC 403);
3. Fish and Wildlife Coordination Act (16 USC 661 et seq.);
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-332);
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230);
6. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990);
7. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005.
8. Regulatory Guidance Letter No. 06-03. U.S. Army Corps of Engineers, August 3, 2006.

B. Commonwealth of Virginia:

1. Sections 62.1-44.15:20-23 of the Code of Virginia.
2. Virginia Water Protection Permit Regulation (9 VAC 25-210); and
3. Guidelines for the Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VAC 20-390-10 et seq.)

IV. ESTABLISHMENT OF THE BANK

A. Scope of Work: The Sponsor agrees to perform all necessary work, in accordance with the provisions of this Banking Instrument, to establish and maintain aquatic habitats and associated uplands buffers, as described in Exhibit C, until it is demonstrated to the satisfaction of the agencies represented on the IRT (acting through the Chair) that the project complies with all provisions contained herein, or until all Credits are sold, whichever is later. Work as described above shall include implementing the Bank Development Plan (Exhibit C). Prior to any Debiting, the Mitigation Site Plan for the phase of the Mitigation Bank proposed for Debiting must be approved by the IRT, the site for that phase must be secured, and appropriate Financial Assurances for that phase must be established.

B. Permits: The Sponsor will obtain all appropriate permits or other authorizations needed to construct and maintain the Bank, prior to Debiting any advance Credits. This Banking Instrument does not fulfill or substitute for such authorization.

The Sponsor agrees not to utilize a non-reporting Nationwide Permit or State Program General Permit under Section 10 of the Rivers and Harbor Act, Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Waters of the United States and/or State Waters on the Property. Notification to the appropriate permitting authorities shall be required for the proposed use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

C. Bank Development Plan: *The Bank Development Plan must be approved by the IRT. If the Bank will be developed in phases, the phases should be described in the Bank Development Plan.*

Establishment of the Bank may be performed in phases as described in the Bank Development Plan

(Exhibit C), and the Credits will become available in accordance with the schedule specified in Part V, Sections F and G of this Banking Instrument.

D. Financial Assurance Requirements: *The appropriate Financial Assurance documents must be attached as exhibits.*

1. For the advance release of Credits (not to exceed 15% of the total number of Credits that could be derived from this site) the Sponsor agrees to provide adequate Financial Assurances (e.g. escrow agreement, performance bond) to ensure that aquatic resources will be restored or established on site. The amount of the assurances should be sufficient to acquire replacement compensatory mitigation through an approved bank or in-lieu fee program in the event of a default (see also Part V, F1). Release of funds from this Financial Assurance will be recommended by the IRT once it has reviewed and approved the annual monitoring report which demonstrates that success criteria have been met for the type of credits previously released (i.e. stream or wetland). Complete release of the financial assurance agreement may only occur if the submitted report demonstrates that sufficient area met the specific success criteria (as stated herein) to offset the advanced release of Credits.

2. The Sponsor shall establish an escrow account/performance bond with the following law firm/title company/surety company who will act as specified under this Banking Instrument. The Sponsor may, at its discretion, replace this escrow agent/surety company with a different law firm, title, or surety company registered to do business in the Commonwealth of Virginia. The Sponsor shall provide the IRT with notice prior to replacement of the escrow agent/surety company and a draft of the new instrument for review. The provisions of the new instrument shall conform with the provisions of the former instrument.

3. For any sale of Mitigation Credits consummated by the Sponsor:

a. 8% of all cash proceeds from said transactions shall be placed in a separate escrow account to be called the Maintenance and Monitoring Fund. If the required monitoring or maintenance is not conducted as specified in Section VI of this instrument and the Bank Development Plan, then the IRT, acting through the Chair shall request release of funds to an IRT agency or its designee from this account sufficient to cover the necessary monitoring or maintenance activities. One-tenth of this fund (or 0.8% of the total cash proceeds) shall be released to the Sponsor on each February 1st after the IRT reviews and approves the most recently submitted monitoring report (see Section VI C) that documents that part or all of the Restoration/Creation/Enhancement portion of the site satisfies the Bank Success Criteria (see Part V E) to cover the expected costs of maintenance and monitoring over the required 10 year monitoring period. The last one-tenth of the fund (or 0.8% of the total cash proceeds) shall be held until the final monitoring report is submitted and approved.

(The IRT should be flexible regarding the percentage of cash proceeds placed in an escrow account. A higher percentage may be required for high-risk Mitigation Bank sites & lower percentages for those with a greater likelihood of success.)

b. A sufficient percentage of all cash proceeds from said transactions, based on an itemized analysis of the funds needed for long-term management and to address potential catastrophic events shall be placed within a separate escrow account to be called the Catastrophic Event and Long-Term Management Fund. The itemized analysis of the necessary funds may include but is not limited to expected long-term management costs such as posting, fencing, maintenance of structures, control of invasive species, and legal defense of any easements or restrictive covenants recorded to protect the bank property, etc. This itemized analysis shall be based upon an accepted methodology (such as the Property Analysis Record version 2.0). These funds shall be placed in a federally insured financial institution in an interest bearing account. In the event of a catastrophic event, as determined by the IRT, that effects the long term viability of the Mitigation Bank, the IRT can cause the appropriate corrections to occur by either: (i) directing the Sponsor, if said event occurs while the Sponsor's maintenance period is in effect, to implement corrections which will be funded by release of an appropriate amount of said funds, (ii) recommend the escrow agent release the necessary funds to the Long-Term Steward of the Mitigation Bank to make necessary corrections and/or manage the Property, or (iii)) recommend the escrow agent release the funds to an Agency represented on the IRT or its designee to effect the necessary corrections. Any unspent funds shall remain in this fund if not utilized to repair the Mitigation Bank from a catastrophic event or for long-term management of the Bank site. This Catastrophic Event and Long-Term Management Fund will be transferred to the designated Long-Term Steward of the land for use in addressing future catastrophic events or land management requirements once all monitoring has been completed and all Credits from the Bank have been Debited.

(The percentage of cash proceeds placed in the Catastrophic Event & Long-Term Management Fund depends upon foreseeable long-term management requirements. For instance, sites that rely upon water control structures may require more long-term management than those without those structures. The percentage should be sufficient to remediate catastrophic events and to enable the Long-Term Steward to manage the Bank site, including fencing, structures, invasive species control, etc. It should be noted that most IRT members do not support the use of water control structures that may require long-term or ongoing maintenance to sustain wetland hydrology.)

4. Long-term (past 10 years) maintenance requirements will be determined on a site-specific basis. However, any such activities shall be the responsibility of the Long-Term Steward. The Catastrophic Event and Long-Term Management Fund, shall provide a funding source for any maintenance requirements or repairs necessitated by natural disasters or other catastrophic events as defined in paragraph E below that the Sponsor or Long-Term Steward must address.

E. Catastrophic Event and Long Term Management Fund: As described above, a portion of all cash proceeds from said transactions shall be placed in an escrow account called the Catastrophic Event and Long Term Management Fund. Damages from the catastrophic events identified below are permitted to be repaired using the principal and interest accumulated in the Catastrophic Event and Long Term Management Fund by either the Sponsor or the long term steward of the land, the funds being provided to whichever entity has responsibility to repair the resulting damages. Expenditures shall be

approved by the IRT if the damage occurs within the 10-year monitoring period associated with Bank establishment. The sponsor is responsible for demonstrating to the IRT's satisfaction that catastrophic damage has taken place.: Expenditures may be approved to address the following issues:

1. Floods greater than a presently projected 100-year flood, where "flood" refers to a runoff event;
2. Tornado of F2 or greater magnitude on the Fujitsu scale;
3. Hurricane of Category 2 or greater magnitude on the Saffir-Simpson scale;
4. Earthquakes of a magnitude greater than 6.5 on the Richter Scale;
5. Extreme drought (Drought Monitor Classification of D3 or greater or Palmer Drought Index of -4.0 or less) if such event has broad regional impact, and is not endemic to the Bank and its immediate locale;
6. Drought, insect damage, or animal damage to planted vegetation that occurs across a majority of the site at a magnitude such that the vegetation fails to achieve the Success Criteria described in Section V.E after each respective phase of planting has surpassed the contractor's one-year warranty (if a one-year warranty was required).
7. Breach of any berms, embankments or spillway and/or damage to outlet structures washout of stream stabilization structures (including cross vanes, J hooks, rock weirs, imbricated riprap, vegetated stream banks, coir logs, fascines, and riparian plantings) from a 100-year or greater magnitude storm event.
8. Any long-term maintenance requirements necessitated under Section IV D (4) and Section VI I and J

F. Real Estate Provisions: The Sponsor shall record a restrictive covenant (*conservation easement, declaration of restrictions, etc.*) on the Bank land and provide a copy to the IRT prior to sale of any Credits in favor of any permittee. A template declaration of restrictions is attached in Exhibit F. The IRT agrees that if a conservation easement approved by the IRT is recorded over the property with a non profit conservation organization named as easement holder, credit composition will be revised so that 5% less land area is required to generate a mitigation credit than would be required under a restrictive covenant. Any proposed changes in credit composition must be proposed in the MBI. A copy of the recorded document shall be provided to the Corps within 30 days of recordation.

G. As Built Survey: *An as-built survey may not be required for wetland restoration that is based solely upon plugging or filling ditches or Stream mitigation based solely on riparian buffer establishment*

(For both Wetlands and Streams) The sponsor agrees to submit an as-built report to the IRT within 60 days following completion of the grading for each phase of the bank site. The as-built will depict the completed portions of the bank site for that operational year, including a survey showing finished grades, the elevation of any constructed structures (e.g. berms, weirs, etc.), and will describe in detail any substantial deviations from the requirements described in the Mitigation Site Plan (s) submitted to the IRT in accordance with the Bank Development Plan (Exhibit C).

(For Streams Only) The Stream as-built information will be used as a comparative measure for streambank stability and will be referenced in each Monitoring Report, in accordance with the terms found in Section VI.B and C of this MBI.

V. OPERATION OF THE BANK

A. Service Area: The Bank is established to provide Mitigation to compensate for impacts to Waters of the United States and/or State Waters, including wetlands, within the service area depicted on the excerpt of the USGS Hydrologic Unit Map as shown in Exhibit E. This service area shall include Hydrologic Unit _____, and the portion of _____ within _____, _____ and _____ Counties and _____, _____ Cities.

B. Access: The Sponsor will allow, or otherwise provide for, access to the site by members of the IRT or their agents or designees, as reasonably necessary, for the purpose of inspection, compliance monitoring, and remediation consistent with the terms and conditions of this Banking Instrument throughout the period of Bank establishment, monitoring, and operation. Inspecting parties shall not unreasonably disrupt or disturb activities on the Property.

C. Projects Eligible to Use the Bank: The following types of projects may be eligible to use the Mitigation Bank:

1. All activities regulated under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act and/or the Virginia Water Protection Permit Regulations (9 VAC 25-210) located within the Service Area of this Mitigation Bank may be eligible to use Mitigation Bank as compensatory Mitigation for unavoidable impacts;
2. Use of Credits may only be authorized when adverse impacts have been avoided and minimized to the maximum extent practicable; when onsite Compensation is either not practicable or use of a Mitigation Bank is environmentally preferable to onsite Compensation.
3. Credits may be used to compensate for environmental impacts under other programs (civil works, Superfund removal and remedial, supplemental environmental projects for state and Federal enforcement actions, etc.)
4. For projects in the service area of this Mitigation Bank that require authorization with a Nationwide Permit (NWP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act, Norfolk District State Program General Permit (SPGP), and/or a Virginia Water Protection Permit, and if said authorizations requires compensatory Mitigation, Credits from this Mitigation Bank may be permitted to be used to satisfy these compensatory Mitigation requirements if the Sponsor and the third party permittee reach a mutually acceptable Financial agreement and subject to regulatory approval on a case by case basis.
5. For projects in the Service Area of this Mitigation Bank that require authorization with an Individual Permit (IP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act and/or Virginia Water Protection Permit, the Corps and DEQ, in consultation with the other regulatory and resource agencies, will determine the eligibility of such projects to use the Bank on a case-by-case basis. Once the Corps and/or DEQ have determined that Mitigation in this Bank is ecologically preferable to any on-site alternatives or that there are no practicable on-site alternatives, Mitigation may be provided by the use of

Mitigation Credits from the Mitigation Bank as determined by the Corps and/or DEQ for each agency's respective permits if the Sponsor and the third party permittee reach a mutually acceptable Financial agreement.

D. Assessment Methodology: Credits and Debits will be assessed using measurements of the area of impacts and the Mitigation land area. The number of Wetland Mitigation Credits created by development of this Mitigation Bank is determined by a combination of land area and habitat type (e.g. Cowardin Classification) provided in the Bank Development Plan (Exhibit C) as described in Exhibit D.

The number of stream mitigation credits created by development of this mitigation bank is determined by linear feet of each activity and the corresponding credits for those activities outlined in the Unified Stream Methodology (January 2007 or most current version) or other acceptable tools (e.g. Eastern Kentucky model) as provided in the Bank Development Plan (Exhibit C) and the associated USM forms.

The amount to be debited for each impact will depend upon the area of wetlands or waters to be impacted as determined during the permitting process.

E. Success Criteria: The following criteria will be used to assess project success:

1. Submittal of required documentation, including monitoring reports, semi-annual Ledgers, as-built drawings, proof of escrow deposits and withdrawals in accordance with Section VI. C, D, and E
2. In Preservation Areas, including Buffer areas,
 - a. Proof of recordation of the restrictive covenant
 - b. The final monitoring report (Year 10) shall document that all preserved areas, including Buffers are intact in their approved condition
 - c. No more than 5% cover per stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia*, *Phragmites australis*, *Lonicera japonica*, *Puerraria lobata*, or *Ailanthus altissimus*. *Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf*
3. In all restoration, creation, and enhancement Buffer areas,
 - a. A minimum of 400 woody stems of native trees and shrubs per acre (including volunteers) from the top of the stream bank landward and/or within the wetland shall be achieved by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 30%. Canopy coverage shall be at least 30% each monitoring year thereafter. *(The number of woody stems per acre may vary under certain circumstances. For example, if invasive species*

need to be controlled upon implementation of the project, then a lower density may be appropriate in order to mow and/or spray).

- b. Native non-invasive herbaceous plant coverage shall be at least 60% by the end of the first growing season, and at least 80% each monitoring year thereafter. Any seeds used for plant establishment should conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et seq) and shall be free of tall fescue, Bermuda grass, and other allelopathic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.
 - c. No more than 5% cover per stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia*, *Phragmites australis*, *Lonicera japonica*, *Pueraria lobata*, or *Ailanthus altissimus*. Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf
 - d. The final monitoring report (Year 10) shall contain documentation by cell, field, or block that demonstrates that all vegetation within the buffer area is healthy and thriving and the average tree height of all planted trees is at least 5 feet in height in each cell, field, or block
4. In vegetated wetland Restoration/Creation areas success shall be evaluated by each cell, field, or block:
- (a) Wetland hydrology, defined as saturation of the major part of the root zone (in the upper 12 inches of the soil profile) or ponding upon the soil surface for at least twelve and one-half percent (12.5%) of the growing season must be achieved (for the purpose of this determination, the growing season is defined as the period in which temperatures are expected to be above 28°F in 5 out of 10 years. This is the period between ____ and ____ in ____ County/City; or the period during which the soil temperature in a wetlands in ____ County/City is greater than biological zero (5⁰C) at a depth of 50 cm (19.6 inches) if such data is available), and
 - (b) Wetland vegetation dominance, defined as a vegetation community where more than 50% of all dominant species are facultative ("FAC") or wetter, excluding FAC-plants, using "routine delineation methods" as described in the "Corps of Engineers Wetland Delineation Method," Technical Report 87-1 ("1987 Manual") and any approved Regional Supplements to the 1987 Manual, must be achieved; and
 - (c) Plant density in forested and shrub/scrub wetland areas of at least ____ living woody stems per acre of trees and shrubs must be achieved by the end of the first growing season following planting and maintained through the end of the monitoring period until canopy coverage of woody species is greater than 30%. No more than 5% aerial cover of invasive species such as *Typha latifolia* or *Phragmites australis* may be

present in each cell, field, or block. *Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf;* Once these cover requirements are met, woody species counts may be halted; and

(d) Plant coverage in emergent wetland areas of at least ___% must be achieved by the end of the first growing season, ___% must be achieved by the end of the second growing season, and ___% must be achieved by the end of the third growing season and maintained through the end of the monitoring period with no more than ___% aerial cover of invasive species such as *Typha latifolia* or *Phragmites australis* in each cell, field, or block. *Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf.* and

(e) Plant density in forested wetlands areas must include at least ___ living stems per acre of ___ (sp.) that are rated FAC or wetter, excluding FAC- species; and

(f) Plant coverage in floating aquatic areas of at least ___% must be achieved during a portion (July and August) of the first growing season, ___% must be achieved during a portion of the second growing season, and ___% must be achieved during a portion of the third growing season and maintained during a portion of each subsequent growing season (i.e., these plants do not persist in colder periods of the growing season, thus this requirement only pertains to the middle portion of the growing season).

(g) The average height of all woody stems including volunteers in each cell, field, or block must increase by not less than 10% during each successive monitoring period after the first monitoring report, until canopy coverage of woody species exceeds 30%.

(h) *Soil Success Criteria shall be evaluated for wetland Creation areas located on non-hydric soils. In that event, the following success criteria shall be followed:*

(1) For coarse textured (sandy) surface soils, positive indicators of hydric soil formation must be demonstrated within 6 inches of the soil surface. Groundwater monitoring may be used as the positive indicator for the first 2 years after reaching the final grade, in which case, wells must demonstrate free water within 6 inches of the surface for 15 consecutive days during the growing season.

(2) For fine textured soils (silts, clays, loams), positive indicators of hydric soil formation must be demonstrated within 12 inches of the soil surface. Groundwater monitoring may be used as the positive indicator for the first 2 years after reaching the final grade, in which case, wells must demonstrate free water within 12 inches of the surface for 15 consecutive days during the growing season.

(3) Positive indicators of hydric soil formation may include redoximorphic features including, but not limited to redox concentrations, redox depletions, reduced matrices, positive tests with α, α , diperydyl, or other field indicators contained in the Field Indicators of Hydric Soils of the U.S.

(4) A complete soil morphologic description shall be documented pre and post construction and at the 3rd year following construction and each subsequent mandatory monitoring year to document changes in overall soil morphology, particularly the development of redoximorphic features over time (such as a reduction in matrix chroma or development of redox depletions), to demonstrate that soils at the site are progressing towards hydric soil conditions. At a minimum, soil profiles shall be described within 30 feet of each well.

5. Stream Success Criteria

It is important to note that this is not a standard set of Criteria to be placed on all projects. It is a standard set of Criteria to choose from, however, the bank sponsor may propose additional criteria. Criteria should be project-specific based goals and objectives, type of restoration activity, reference data, current stream condition vs. anticipated restored condition, and the stream type being restored or created.

The overall goal for the stream success criteria is to ensure that the dimension, pattern, and profile of the stream enhancement and restoration areas remain within the natural range of variability present in the reference data obtained for the design. The IRT will use best professional judgment, visual observations and monitoring reports to evaluate attainment of success criteria and in determining whether part or all of the bank site is successful or whether corrective actions are warranted.

(a) STREAM PRESERVATION AREAS

For the linear footage of stream in which no instream or bank work is accomplished, but stream preservation is done (regardless of riparian area activities) (as described in Section II), the following success criteria will apply:

Dimension

The analysis of representative riffle cross-section shall indicate that it has neither aggraded, degraded, widened, nor narrowed to the point where it has become unstable or will cause instability. The following measurements will be used to aid in making this determination each monitoring year:

1. The Width / Depth Ratio Stability Rating (measured Width / Depth Ratio divided by the baseline Width / Depth Ratio) shall not be greater than 1.3. If the channel is incising, then the Width / Depth Ratio Stability Rating shall not be less than 0.7.
2. The Bank Height Ratio shall not increase or decrease by an amount greater than 0.2 of the baseline Bank Height Ratio.

3 Other measurements to consider include cross-sectional (bankfull) area of the channel, floodprone elevation, bankfull elevation, floodprone width, entrenchment ratio, mean depth, bankfull width, and hydraulic radius.

(b) STREAM ENHANCEMENT

For the linear footage of stream with stream enhancement activities (as defined in Section II), the following success criteria will apply in addition to those outline in Section V.E.5.a:

Stream Reach Stability

The analysis of the streambank from the top of the bank to the ordinary high water mark shall indicate a significant amount of natural protection to prevent streambank erosion that could jeopardize the stability of the streambank or the stream reach.

The following measurements will be used to aid in making this determination each monitoring year:

1. Where streambank plantings were undertaken: The numbers of live stakes, planted, or volunteer woody species providing bank stabilization from the top of bank to ordinary high water mark shall be at least 1 living stem per 10 square feet per sample plot by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 50% for any identified reach. Canopy coverage shall be at least 50% each monitoring year thereafter.
2. The individual Index Values of the Bank Erodibility Hazard Index (BEHI) rating for any identified reach shall be equal to or less than the previous year's Index Value. In addition, the Total Score shall be equal to or less than the previous year's Total Score, and shall have a Total Score of "Moderate" by Monitoring Year 3, and a Total Score of "Low" by Monitoring Year 5, and maintained at "Low" throughout the remainder of the monitoring period.
3. The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfankuch, 1975) rating shall be "Good" each monitoring year, beginning with Year 2.

Pattern

The analysis of the plan-view survey or field measurements shall indicate that the stream is not migrating significantly to the point where it will cause significant bank erosion and cause instability.

The following criteria will be used to aid in making this determination each monitoring year:

1. The sinuosity of the stream shall not increase or decrease by an amount greater than 0.1 of the approved as-built pattern.
2. The centerline of each channel cross-section will not move by more than 10% of the ~~length~~ width of the approved as-built channel width in any given year.
3. The Radius of Curvature / Width Ratio shall remain within the range of variability present in the reference data.

(c) STREAM ENHANCEMENT WITH STRUCTURES

For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Sections V.E.5.a and V.E.5.b:

Structures

The analysis of each instream structure shall indicate that it is maintaining its structural integrity, performing its intended function, and not adversely affecting the stream. The following measurements will be used to aid in making this determination each monitoring year:

1. Absence of under cutting, washing around, or erosion of the bank, backfill or streambed associated with any instream structure.
2. The invert elevation (controlling elevation) of the header rocks or logs of any vane, j-hook, cross-vane, W-weir, or other structure shall remain unchanged from the approved as-built

Materials (if applicable – constructed riffles)

The analysis of the pebble count data shall not show a significant change in streambed materials to the point that indicates a shift in bedload material due to stream instability. The following measurement will be used to aid in making this determination each monitoring year:

1. The D50 size particle shall remain within its approved as-built size class (silt, sand, gravel, cobble, boulder).

(c) STREAM RESTORATION

For the linear footage of stream with stream restoration activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Sections V.E.5.a, V.E.5.b, and V.E.5.c:

Profile

The analysis of the longitudinal profile shall indicate that the bed elevation has neither aggraded nor degraded to the point where it will cause instability.

The following criteria will be used to aid in making this determination each monitoring year:

1. The analysis of the Longitudinal Profile shall not indicate significant alterations in the locations, depths, and slopes of stream features (riffle, run, pool, glide).
2. Bankfull Shear Stress, and Mean Depth and Slope (calculated using Critical Dimensionless Shear Stress) shall be appropriate for transporting the D100 of either the bar sample or the sub-pavement sample.
3. The slope of the longitudinal profile shall not increase or decrease by an amount greater than 0.1% of the approved as-built slope.

Materials (if not included in Section V.E.5.c)

The analysis of the pebble count data shall not show a significant change in streambed materials to the point that indicates a shift in bedload material due to stream instability.

The following measurement will be used to aid in making this determination each monitoring year:

The D50 size particle shall remain within its approved as-built size class (silt, sand, gravel, cobble, boulder).

6. At the written request of the Sponsor, the IRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

F. Schedule of Credit Availability: Upon submittal of all appropriate documentation by the Sponsor, and subsequent approval by the IRT, the IRT Chair will provide in writing the release of Credits to the Sponsor in accordance with the following schedule:

1. Up to fifteen percent (15%) of anticipated Credits per phase/site will be available for Debiting upon implementation of the following: (a) approval of this Banking Instrument and the Mitigation Site Plan described in Exhibit C; (b) Implementing financial assurances (e.g. posting a performance bond or execution of an Escrow Agreement substantially in accordance with the sample Escrow Agreement provided in Exhibit G) covering the advance release of credits; (c) securing the Property proposed for the Mitigation Bank (fee simple acquisition, easement, etc.); (d) a copy of the approved and recorded real estate instrument that protects the site in perpetuity is provided to the IRT; (e) a schedule is

submitted to the IRT that shows that the initial (i.e., Phase I) physical and biological improvements will be completed no later than the first full growing season following initial Debiting from the Bank; and (f) an electronic version of this MBI the Bank Development plan and associated exhibits is submitted to the IRT chair and/or uploaded to the Corps Regional Internet Bank Information Tracking System (RIBITS);

2. Wetland Credits beyond 15% advanced credits can be released by the IRT, (acting through the Chair) once all wetland success criteria are met,
3. Buffer Preservation - For those credits derived from riparian buffer and stream preservation release of credits beyond the initial 15% will adhere to the following schedule:
 - 100% of total credits will be released upon meeting the conditions in Section V 2.
4. Buffer Enhancement/Restoration/Reestablishment Area: For those credits associated with buffer area enhancement/restoration/reestablishment activities (as defined in Section II), release of credits beyond the initial 15% will adhere to the following schedule:
 - a. Construction release
 - i. 10% (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan
 - b. After year 1 following completion of construction:
 - 75% of total credits (100% cumulative)
After IRT approval of the first year monitoring report which documents compliance with success standards at Section V E. 3.
5. Stream Restoration and Enhancement
For those credits associated with stream restoration and enhancement activities (defined in Section II), release of credits beyond 15% will adhere to the following schedule:
 - a. Construction release:
 - 10% (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan
 - b. After Year 1 following completion of construction:
 - if a bankfull event has not occurred this year and all success criteria are met and channel is stable, 10% credits release (35% cumulative)
 - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (50% cumulative).
 - c. After year 2 following completion of construction:

- if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (45% cumulative)
 - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (75% cumulative).
- d. After year 3 following completion of construction:
- if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (55% cumulative)
 - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (100% cumulative).
- e. After year 4:
- if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (65% cumulative)
 - if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release not to exceed the remaining available credits (100% cumulative).
- f. No additional credits will be released after Year 4 until a bankfull event occurs. For each additional monitoring year, no more than 25% of total credits will be released not to exceed the remaining available credits if a bankfull event occurs that year, the channel is stable, and all success criteria are met.

G. Conditions on Debiting: Any Credits Debited before achieving the Success Criteria (e.g. the 15% advance release of Credits), shall require conformance with the Financial Assurance requirements described in Section IV.D, and execution of an Escrow Agreement in substantial conformance with the agreement found in Exhibit G to provide sufficient Financial Assurance to assure performance and to cover contingency actions in the event of partial or total failure. Aside from the advance release of credits, if the number of Credits Debited exceeds the number created, then no further credit sales shall be permitted by the IRT until additional credits are released by the IRT acting through the Chair.

H. Provisions For Uses of the Mitigation Bank Area: The Sponsor shall not use or authorize the use of areas within the Bank or areas surrounding the Bank over which the Sponsor has control for any purpose that interferes with its conservation purposes. In addition to implementation of the terms of this instrument, the following activities are permissible:

- a) Monitoring of vegetation, soils and water;
- b) Maintenance of wetlands, restored/enhanced stream segments, riparian buffers, trails, bridges, berms, dams, outlet and spillway structures, and other appurtenant facilities;
- c) Hunting and fishing and other passive recreational uses such as hiking and bird watching;

- d) Ecological education; and
- e) Compliance with applicable Federal, State, or local regulations or appropriate court orders.

VI. MAINTENANCE AND MONITORING OF THE BANK

A. Maintenance Provisions: The Sponsor agrees to perform all necessary work to maintain the Bank consistent with the maintenance criteria established in the Bank Development Plan. The Sponsor shall continue with such maintenance activities until completion of the monitoring period described in Section VI.B. Deviation from the monitoring and maintenance provisions in the approved Mitigation Bank Instrument and the Bank Development Plan is subject to review and written approval by IRT, acting through the Chair.

B. Monitoring Provisions: The Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the Success Criteria established in this Banking Instrument. Monitoring may be terminated or the extent of monitoring may be reduced over part or all of the site at the discretion of the IRT.

- Timing.** Monitoring activities shall occur during the growing season, and at least once during the 1st, 2nd, 3rd, 5th, 7th and 10th growing seasons following completion of grading. In addition, monitoring shall adhere to the following schedules:
- (a) For any year in which planting was conducted, monitoring of woody vegetation shall take place no sooner than 1 year following planting.;
 - (b) Monitoring of vegetation (herbaceous and woody species) shall be conducted during the growing season.
 - (c) If all performance criteria have not been met in the 10th year, then a monitoring report shall be required for each consecutive year until two sequential annual reports indicate that all criteria have been successfully satisfied.
 - (d) A final monitoring report (typically prepared the 10th growing season following completion of grading)

The monitoring program *for upland buffer preservation areas* shall consist of:

Visual Observations: Visual observations shall be provided with each monitoring report through a written discussion of the buffer condition, any significant changes to the buffer, and photographic documentation, as necessary to further describe the buffer condition.

The monitoring program *for upland buffer restoration/establishment/reestablishment areas* shall consist of:

1. **Visual Description.** Visual descriptions shall be provided with each monitoring report by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the

entire site. An aerial photograph should be taken once the site has been graded, planted, and stabilized (preferably in the 3rd or 5th year following final grading).

2. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all habitat areas of upland buffer at locations adjacent to each photo location marker. The following *minimum* numbers of samples will be required:

If the buffer area is < 5 acres, then a minimum of 3 plots/acre is necessary

If the buffer area is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.

If the buffer area is > 20 acres, then a minimum of 1 plot/acre is necessary

However, all cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods (*for instance use of point-line, point frame, or line-intercept sampling techniques; use of species-area curves or sample size analyses to establish numbers of samples, etc.*) may be submitted for IRT review and approval. The vegetation data shall be collected during the growing season and shall include:

- (a) Dominant vegetation species identification;
- (b) Coverage assessment;
- (c) Number of woody plant stems (total and #/acre);
- (e) Percent survival of planted species; and
- (f) An invasive/noxious species assessment, including percent cover;
- (h) Average height of planted woody species in each sample and percent change in height since previous monitoring event

The monitoring program for *wetlands* (both restoration and creation) shall follow the guidelines established below:

1. Visual Description. Visual descriptions shall be provided with each monitoring report in narrative form along with documentation by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot and hydrology monitoring station [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the entire site. An aerial photograph should be taken once the site has been graded, planted, and stabilized (preferably in the 3rd or 5th year following final grading).
2. Hydrology. This is a _____ driven system on top of a _____ substrate. For surface saturation driven systems located on top of a clayey substrate, soil saturation measurement devices may be used in lieu of groundwater wells and other secondary hydrology indicators to determine groundwater elevations and/or hydro period in these wetlands areas. Specific details on the soil saturation measurement device and location or groundwater monitoring wells shall be provided in the Final Construction Documents for IRT approval as described in Exhibit C. For each monitoring report, either 60 days of continuous automated

monitoring, or 8 consecutive weekly measurements shall be provided during the growing season to demonstrate achievement of the hydrology performance criterion (actual monitoring may be of longer duration, as needed, to obtain proof of wetland hydrology).

3. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all areas of restored/constructed wetlands at locations adjacent to each photo location marker. The following minimum numbers of samples will be required:

If the site is < 5 acres, then a minimum of 3 plots/acre is necessary

If the site is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.

If the site is > 20 acres, then a minimum of 1 plot/acre is necessary

All cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods may be submitted for IRT review and approval. The vegetation data shall be collected during the growing season and shall include:

- (a) Dominant vegetation species identification;
- (b) Coverage assessment;
- (c) Number of woody plant stems (total and #/acre);
- (d) The percentage of dominant species FAC or wetter (excluding FAC-).
- (e) Percent survival of planted species; and
- (f) An invasive/noxious species assessment including percent cover;
- (g) Number and species of _____ (sp.) rated FAC or wetter (excluding FAC-) growing in wetlands (total and #/acre).
- (h) Average height of woody species in each sample and percent change in height since previous monitoring event

The monitoring program *for streams* shall follow the guidelines established below:

1. Stream Channel Preservation- For the linear footage where no instream work was accomplished (regardless of riparian buffer activities), the following monitoring shall occur:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. A minimum of one cross-section per 1000 linear feet will be required. Total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed. A stream gage shall be placed in each stream to document bankfull events

The following will be documented at each cross-section:

- a. Ground level photographs shall be provided with each monitoring report for the purpose of documenting vegetation and stream stability. The photographs will be taken twice annually (summer/winter) at representative cross-sections and will clearly

show the channel upstream and downstream, the riparian buffer area, and each stream bank.

Cross-sectional measurements shall include streambanks, streambed, water surface, bankfull, and adjacent floodplain elevations.

2. Stream Enhancement - For the linear footage of stream with stream enhancement activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation areas:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. Representative cross-sections (with permanent markers established during the first monitoring interval) will be surveyed at 500-foot intervals on a representative sample of riffles, runs, glides, and pools. Total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed.

- a. Sample plots for stream bank vegetation (10 square feet in size) shall be located on each bank at 500-foot intervals within representative sections of streambank where streambank plantings were completed.
- b. The Bank Erodibility Hazard Index (BHI) will be assessed at each permanent cross-section and additional locations to provide a representative assessment.
- c. Beginning with Year 2, The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfankuch, 1975) will be performed at each permanent cross-section and additional locations to provide a representative assessment
- d. Bankfull event gage documentation
- e. *(for habitat structures)* Photographs documenting the structural integrity and function at each habitat structure. Documentation of use by intended species.

3. Stream Enhancement with Structures: For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation and Stream Enhancement areas:

- a. Each instream structure shall have the following data collected:
 - i. Photographs documenting structural integrity and function
 - ii. Surveyed profile documenting invert elevation
- b. *(For constructed riffles)* Wetted-perimeter cross-section pebble count at constructed riffles.

4. Stream Restoration: For the linear footage of stream with stream restoration activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation, Stream Enhancement, and Stream Enhancement with Structures areas:

- a. A surveyed longitudinal profile of the stream within the thalweg with measurements of the locations, depths, and slopes of riffles, runs, pools, and glides.
- b. Radius of curvature within a representative longitudinal profile
- c. Sinuosity of representative sections
- d. Bankfull Shear Stress, and Mean Depth and Slope (calculated using Critical Dimensionless Shear Stress)

- e. Stream classification pebble count
- f. Bar sample of pavement/sub-pavement sample
- g. Wetted-perimeter cross-section pebble count of representative riffles (*not constructed riffles*)
- h. The D50 analysis of the pebble count data

C. Reports: The Sponsor shall submit to the IRT reports describing the conditions of the Bank and relating those conditions to the Success Criteria as well as the provisions of Section VI B. Reports will be submitted to the IRT and an electronic version shall be submitted to the Chair and/or uploaded to the Corps' Regional Internet Banking Information Tracking Systems (RIBITS) by November 30th of each monitoring year. Monitoring reports shall contain the following:

1. An aerial photograph, taken either the 3rd or 5th year following final grading (if allowed in accordance with national security provisions) during the growing season, depicting the completed phases of the Mitigation Bank with the photo date and approximate scale noted, and ground level photographs as described in Section VI.B.
2. A detailed narrative summarizing the condition of the Bank and all regular maintenance and monitoring activities;
3. A drawing based upon the grading plans of the site that depicts topography, and the location of wells, sampling plots, cross-section, and permanent photo stations;
4. For preservation activities including Buffer preservation: Photographic documentation and discussion of visual observations.
5. For buffer restoration/enhancement/reestablishment: Results of vegetation survey including visual estimates of percentage (%) overall cover and % cover by each vegetation layer, species diversity, % non-native/invasive vegetation in each vegetation layer, total % "facultative" and total % "upland" species in each vegetation layer, survival rate of planted vegetation, an estimate of natural revegetation, average height of woody species in each sample and percent change in height since previous monitoring event, and a qualitative estimate of plant vigor as measured by evidence of reproduction; and
6. **For wetland restoration/creation**, the results of vegetation monitoring including visual estimates of percentage (%) overall cover and % cover by each vegetation layer, species diversity, % non-native/invasive vegetation in each vegetation layer, total % "facultative" and total % "upland" species in each vegetation layer, survival rate of planted vegetation, an estimate of natural revegetation, average height of woody species in each sample and percent change in height since previous monitoring event; soils data (for wetland creation areas, and the results of hydrology measurements, including depth of standing water and daily precipitation data for the monitoring period from _____ to _____ with a comparison to historical average precipitation;

7. ***For Stream enhancement and restoration activities:*** Monitoring reports shall present yearly data in tabular and graphical format comparing as-built, current, and previous years monitoring data.

Monitoring reports shall include a discussion of any deviation from as-built or previous year's data.

8. A summary of Credits created by the Bank and the permits that have been Debited against these Credits cumulatively and for this monitoring year.

9. **As-Built Report:** An as-built report shall be submitted to the IRT within 60 days of completion of mitigation activities depicted in the Bank Development Plan (Exhibit B). The report shall include:

- a) plan view of the constructed/restored wetlands, streams, and adjacent buffers with location of all permanent sampling stations, photo stations, monitoring wells, instream and stream bank structures, and all permanent cross-sections and profiles;
- b) photographs of the completed Site taken from permanent photo stations;
- c) profiles of instream structures, cross-sections, and longitudinal stream profiles taken from permanent locations and compared to design plans;
- d) pebble counts and summary geomorphologic data;
- e) Planting zones, phases, and densities;
- f) Stream gage locations;
- g) As-built elevations.

10. Each monitoring report will include detailed resource documentation and a revised summary table of actual wetland and stream credits based on field measurements.

D. Accounting Procedure: The Sponsor shall submit a statement to the Corps and DEQ each time Credits are Debited or additional Credits are approved. If requested, the Corps will distribute the statement to other members of the IRT. The Sponsor or its agent shall update credit ledgers on RIBITS no less than once every 3 months. In addition, the Sponsor shall submit a semi annual Ledger to the Corps for distribution to all members of the IRT, showing all transactions at the Bank for the previous 6 months and a cumulative tabulation of all transactions to date. At a minimum, each Ledger must include the following information: permittee, Permit number, type of permit, locality, type of impacted system (Cowardin Classification), amount of impacts, amount of Debit from Mitigation Bank, USGS HUC Catalog Unit, Date of transaction). The IRT will review the semi annual report and adjust the credit composition to assure no net loss of wetlands acreage. Semi-annual Ledgers and transaction reports shall be submitted to the IRT as long as Credits remain in the Bank and/or the Bank remains operational.

E. Financial Report: The sponsor shall submit to the IRT a financial report by November 30th of each monitoring year. An electronic version of this report shall be submitted to the IRT Chair or uploaded to RIBITS concurrently with this submittal The report shall contain the following:

1. Documentation of balance in the escrow account referred to in IV (D)(2)(a) as the "Maintenance and Monitoring Fund" The balance in this account (principal balance without earned interest) must match the amount required to be set aside in IV (d)(2)(a) (*For*

example, the required deposits may be a specified percentage of the total cash proceeds) minus any approved expenditures or distributions.

2. Documentation of balance in the escrow account referred to in IV(D)(2)(b) as the “Catastrophic Event and Long-Term Management Fund”. The balance in this account (principal balance without earned interest) must match the amount required to be set aside in IV(d)(2)(b) (*For example, the required deposits may be a specified percentage of the total cash proceeds*) minus any approved expenditures or distributions.

F. Contingency/Adaptive Management Plans/Remedial Actions: The Sponsor shall develop necessary contingency/adaptive management plans and implement appropriate remedial actions in coordination with the IRT to address the likelihood that the Bank or a specific phase of the Bank may fail to achieve the Success Criteria specified in Part V, Section E of this Banking Instrument. In the event the Sponsor fails to implement necessary remedial actions within one growing season (by November 1 of the following year) after notification by the Corps and/or DEQ of necessary remedial action to address any failure in meeting the Success Criteria, the IRT (acting through the Chair) will notify the Sponsor and the appropriate authorizing agency(ies) and direct appropriate remedial actions or take action including suspension/revocation of available Mitigation Credits (see VI. G. below).

If the IRT acting through the Chair determines that the Bank is operating at a deficit, or has failed to meet the criteria at Section IV parts D, E, F, or G, debiting by the Sponsor of Credits shall immediately cease, and the Chair in consultation with the IRT and the Sponsor, will determine what remedial actions are necessary to correct the situation. As determined by the Chair in coordination with the IRT and the Sponsor, if conditions at the Bank site do not improve or continue to deteriorate within one growing season from the date that the need for remediation was first identified in writing to the Sponsor by the Chair of the IRT, the IRT, (acting through the Chair) shall request the escrow agent to transfer the amount necessary to correct the deficiency from the Monitoring and Maintenance Funds to a party acceptable to the IRT, to undertake corrective measures. The IRT may also choose to suspend credit transactions until the deficiency(ies) is (are) corrected (see VI. G. below).

Following implementation of remedial measures and at the written request of the Sponsor, the IRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

G. Default: Should the IRT determine that the Sponsor is in material default of any provision of this Agreement, the IRT, acting through the Chair may notify the Sponsor that the sale or transfer of any Credits is suspended until the appropriate deficiencies have been remedied. Upon notice of such suspension, the Sponsor agrees to immediately cease all sales or transfers of Mitigation Credits until the IRT informs the Sponsor that sales or transfers may be resumed. If the Sponsor fails to submit one or more required monitoring reports, an additional year of monitoring and submittal of the associated report to the IRT will be required to document bank compliance. Should the Sponsor remain in default, the IRT, acting through the Chair, may terminate all future credit transactions. Upon termination, the Sponsor agrees to perform and fulfill all obligations under this Agreement relating to Credits that were sold or transferred prior to termination.

H. Bank Closure: At the end of the 10-year monitoring period and upon satisfaction of the Success Criteria, the IRT shall issue a written certification of satisfaction to the Sponsor and the escrow agent, and thereafter any remaining Monitoring and Maintenance

Fund (see Section IV D (3)(a)) will be released to the Sponsor. After Bank Closure and subject to review and approval by the IRT, the Sponsor may utilize that portion of the Bank lands that have not had Compensation Credits Debited from it (i.e. Restoration, Creation, Enhancement, or Preservation lands) provided the utilization does not adversely impact the areas from which Compensation Credit has been Debited.

Prior to closure of a Bank or bank site, the IRT will perform a final compliance inspection to evaluate whether all success criteria have been achieved. Upon the Chair determining, in consultation with the other members of the IRT and the Sponsor, that:

- (1) all applicable success criteria prescribed in Section V.E. for that bank or bank site have been achieved;
- (2) all available credits for that *bank* or bank site have been debited;
- (3) the Sponsor has prepared a Long-Term Management and Maintenance Plan, that has been approved by the IRT, pursuant to Section VI J.;
- (4) the Sponsor has prepared and submitted to the IRT and the appropriate locality a GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank.
- (5) the Sponsor has either: (i) assumed responsibilities for accomplishing the Long-Term Management and Maintenance Plan, in which case the Sponsor will fulfill the role of Long-Term Steward, or (ii) has assigned those responsibilities to another Long-Term Steward pursuant to Section VI. I. of this Instrument;
- (6) the Catastrophic Event and Long-Term Management Fund has been funded pursuant to Section IV D.;
- (7) the contents of the Catastrophic Event and Long-Term Management Fund have been transferred to the Long-Term Steward;
- (8) the Bank has complied with the terms of this Instrument., and the Bank or Bank site will close and the period of Long-term Ownership and Preservation will commence.

I. Long-Term Ownership and Preservation:

1. The Sponsor shall develop a Long-Term Management and Maintenance Plan within 1 year of the approval of this instrument and the Bank Development Plan by the Chair that is consistent with the guidelines and objectives specified in Section J below, and submit the Plan for approval by the Chair, in consultation with the other members of the IRT. The Sponsor is responsible for execution of the approved Long-Term Management and Maintenance Plan. The Sponsor may only deviate from the approved Plan upon written approval of the Chair, following consultation with the IRT.

2. The Sponsor may assign its long-term management and maintenance responsibilities to a third party assignee at the end of the active monitoring period, which will then serve as Long-Term Steward in place of the Sponsor. The identity of the assignee and the terms of the long-term management and maintenance agreement between the Sponsor and the assignee must be approved by the Chair, following consultation with the IRT, in advance of assignment.

3. At that time, the _____ [*Long-Term Steward*] shall be responsible for managing the Bank in perpetuity in accordance with the terms of the Long-term Management and Maintenance Plan, the bank development plan, and real estate provisions, including the terms of the recorded restrictive covenant, a sample of which is provided in Exhibit F. If _____ [*Long-Term Steward*], or its successor declines to accept stewardship responsibility for the Bank and the associated Long-Term Management Fund, the Sponsor shall then transfer stewardship responsibility for the Bank and the associated Long-Term Management Fund to a public resource agency or non-profit agency engaged in conservation activities, subject to written approval of the receiving entity by the IRT. If no public resource agency or non profit agency engaged in conservation activities is willing to accept management responsibility for the Bank lands, then the Sponsor will be the Long-Term Steward until another party acceptable to the IRT agrees to accept management responsibility for the Bank lands.

4. If the Sponsor and/or Long-Term Steward elects to assign responsibility for the Long-Term Management and Maintenance Plan to a Long-Term Steward, the assignment agreement will reflect that the assignee has assumed the obligation, owed to the IRT, of accomplishing the Long-Term Management and Maintenance Plan. In exchange for the assignee's commitment to implement the Long-Term Management and Maintenance Plan, contemporaneously with the assignment of long-term management and maintenance responsibilities the Sponsor will direct disbursement of the full amount of funds in the Catastrophic Event and Long-Term Management Fund, pursuant to Section IV D. of this Instrument to the Long-Term Steward. In the event the responsibility for executing the Long-Term Management and Maintenance Plan is not assigned to a third-party assignee, upon closure of the bank in accordance with Section VI H. of this Instrument, the full amount of funds in the Catastrophic Event and Long-Term Management Fund will be disbursed to the Sponsor.

J. Long-Term Management and Maintenance Plan: The Long-Term Management and Maintenance Plan will contain specific objectives that address the long-term management of the bank site. The Long-Term Steward will document that it is achieving each objective or standard by submitting status reports to the IRT on a schedule approved by the IRT. A primary goal of the Bank is to create a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance. Natural changes to the vegetative community, other than changes caused by non-native/invasive weeds, that occur after all Bank performance standards have been met are not expected to require remediation.

(The Long-Term Management and Maintenance Plan will include those elements necessary to provide long-term protection for the Bank site. The specific elements of the Plan must be tailored to meet the specific needs of the site. At minimum the IRT will likely find the following core elements to be necessary for inclusion in the Long-Term Management and Maintenance Plan. The particular characteristics of the Bank site at the end of the establishment period may necessitate including other elements not specified below, that are needed to protect the ecosystem resources present at the Bank.)

The Long-Term Management Plan will include as appropriate the following provisions for:

(1) Periodic patrols of the Bank site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass (*e.g. mark property boundaries and post "No trespass"*) and repair vandalized Bank features (*e.g. collect and dispose of rubbish including "white goods" and roofing shingles*)

(2) Monitoring the condition of structural elements and facilities of the Bank site such as signage, fencing, roads, and trails. The Long-Term Management and Maintenance Plan will include provisions to maintain and repair these improvements as necessary to achieve the objectives of the Bank and comply with the provisions of the real estate instrument providing protection to the site. Improvements such as access roads, berms, or water control structures that are no longer needed to facilitate or protect the ecological function of the Bank site may be removed or abandoned if consistent with the terms and conditions of the recorded real estate instrument.

(3) Inspection of the Bank site annually to locate invasive Species. Any invasive plant species discovered on the Bank site and occupying more than 5% cover in any given cell, field, or block should be controlled. In the event the IRT determines that the watershed or drainage basin within which the Bank is located becomes infested with these species in the future, so that their effective control on the Bank site is either no longer practicable or unreasonably expensive, the IRT will consider appropriate changes to the Long-Term Management Plan.

Funds from the Catastrophic Event & Long-Term Management Fund may be used for provisions (1)-(3) above.

Upon execution of a long-term management and maintenance assignment agreement, the transfer of the contents of the Catastrophic Event and Long-Term Management Fund, the transfer of management responsibility for the Bank land to the Long-Term Steward, and upon satisfaction of the remaining requirements for Bank Closure under Section H. of this Instrument, the Sponsor shall be relieved of all further long-term management and maintenance responsibilities under this Instrument.

VII. RESPONSIBILITIES OF THE INTERAGENCY REVIEW TEAM

A. The agencies represented on the IRT agree to provide appropriate oversight in carrying out provisions of this Banking Instrument.

B. The agencies represented on the IRT agree to review and provide comments on all project plans, proposed additions of land to the Bank, annual monitoring reports, credit review reports, contingency plans, and necessary permits for the Bank. Comments, if any, on the final construction documents for each phase as described in Exhibit C, additions of land to the Bank, monitoring reports, credit review reports, contingency plans, and permits for Mitigation Bank construction and operation will be reviewed within ninety (90) calendar days from the date of complete submittal. The Chair of the IRT

shall coordinate such review with members of the IRT so that comments can be provided within the ninety (90) calendar day comment period.

C. The Chair or the Corps RIBITS Administrator shall update the credit ledger for the bank in RIBITS, within 30 days of receiving reports or credit ledgers, unless the sponsor updates the Bank ledger in RIBITS,

D. The agencies represented on the IRT agree to review and approve reports on evaluation of Success Criteria prior to approving Credits within each phase of the Bank.

E. The agencies represented on the IRT shall conduct compliance inspections, as necessary to verify Credits available in the Mitigation Bank, assess site conditions, and recommend corrective measures (if any) to the Bank Sponsor, until the terms and conditions of the Bank Development Plan have been determined to be fully satisfied or until all Credits have been sold, whichever is later.

VIII. OTHER PROVISIONS

A. Force Majeure:

1. The Sponsor shall be responsible for repair and remediation of any portion of the bank except upon events of Force Majeure, as defined below:

Force Majeure shall mean, flood, tornado, hurricane, earthquake, fire, which has an irreparable material and detrimental impact on much of the Bank over which the Sponsor or any entity controlled by the Sponsor has no control;

2. The Sponsor shall bear the burden of demonstrating:
 - (a) That the Force Majeure event was caused by circumstances beyond the control of the Sponsor and/or any entity controlled by the Sponsor, including its contractors and consultants;
 - (b) That neither the Sponsor nor any entity controlled by the Sponsor, including its contractors and consultants, could have reasonably foreseen and prevented such an event; and
 - (c) The damage was caused by such circumstances.

B. Reasonably foreseeable technical problems, or unanticipated or increased costs or expenses associated with the implementation of actions called for by this MBI, or changed financial or business circumstances in and of themselves shall not serve as the basis for modifications of this MBI or an excuse from the performance of the requirements of this MBI.

C. Compliance with any requirement of this MBI by itself shall not constitute compliance with any other requirement. An extension of one growing season for compliance based on a particular incident or for one portion of the site shall not necessarily result in the extension of a subsequent or other compliance date or dates. The Sponsor must make an individual showing of proof regarding the cause of each delayed step or requirement for which an extension is sought.

D. Dispute Resolution: Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in the in Department of the Army and Environmental protection Agency regulations entitled “Compensatory Mitigation for Aquatic Resources” (33 CFR Parts 325 and 332 and 40 CFR Part 230), as well as any other federal or state regulations governing mitigation bank operation as applicable. Disputes related to satisfaction of Success Criteria may be subject to independent review from government agencies or academia that are not part of the IRT. The IRT will evaluate this input and determine whether the success criteria are met.

E. Validity, Modification, and Termination of the Banking Instrument: This Banking Instrument will become valid on the latter date of either the Sponsor's signature or the signature of the representative of the Corps.

This Banking Instrument may only be amended or modified with the written approval of all signatory parties. In the event the Sponsor determines that modifications must be made in the Bank Development Plan to ensure successful establishment of the Bank, the Sponsor shall submit a written request for such modification to the IRT, through the Chair, for approval. The IRT, through the Chair, agrees to not unreasonably withhold or delay such approval. Documentation of implemented modifications shall be made consistent with this agreement.

Any proposed substantial change to the mitigation bank or bank site, including but not limited to addition of lands to the bank, establishment of additional bank sites, additions of different types of mitigation credit resources (e.g. stream or wetland credits), or alteration of success criteria will require amendment of the approved banking instrument to comply with the most current approved MBI template in use in Virginia

Any of the IRT members may terminate their participation upon written notification to all signatory parties without invalidating this Banking Instrument. Participation of the IRT member seeking termination will end 30 days after written notification.

This Banking Instrument will be considered null and void if implementation of the bank development plan (excluding the recordation of real estate instruments) has not been initiated within 5 years of the last date of signature. The Sponsor may reinitiate the process by proposing a new banking instrument consistent with the latest mitigation banking instrument template approved for use in Virginia

F. Specific Language of Banking Instrument Shall Be Controlling: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the Banking Instrument by reference, and that are not legally binding, the specific language within the Banking Instrument and any associated Bank Development Plans shall be controlling.

G. Notice: Any notice required or permitted hereunder shall be deemed to have been given either (i) when delivered by hand, or (ii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii) the day sent by Federal Express or similar next day nationwide delivery system, addressed as follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

Insert addresses of the Sponsor and IRT members here.

H. Entire Agreement: This Agreement constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

I. Invalid Provisions: In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

J. Headings and Captions: Any paragraph heading or captions contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

K. Counterparts: This Agreement may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

L. Binding: This Agreement shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Sponsor and the Corps, even though it may not, at that time or in the future, be executed by the other potential parties to this Agreement. The execution of this Agreement by EPA, DEQ, or the USFWS, or other agency, city or county shall cause the executing agency to become a party to this Agreement upon execution, even though all or any of the other potential parties have not signed the Agreement. Execution does not signify the agencies' agreement with the use of Credits in the _____ Wetland Mitigation Bank in connection with any specific permit or project.

M. Transfer of Mitigation Responsibility

In consideration of the Sponsor's agreement to be bound by the terms of this Instrument, the Corps and other IRT agencies acknowledge that upon approval of a proposal by the Permittee to secure mitigation bank credits through a contract with this Mitigation Bank to satisfy all or part of the compensatory mitigation requirements for that Department of the Army and/or Department of Environmental Quality permit, a fully executed contract between the Sponsor and the Permittee shall act to transfer to this Mitigation Bank the responsibility for the required compensatory mitigation to be provided by the Mitigation Bank in accordance with the permit.

N. Liability of Regulatory Agencies: The responsibility for financial success and risk to the investment initiated by the Bank Sponsor rests solely with the Bank Sponsor. The regulatory agencies that are parties to this agreement administer their regulatory programs to best protect and serve the public's interest in its waterways, and not to guarantee the financial success of Banks, specific individuals, or entities. Accordingly, there is no guarantee of profitability for any individual Mitigation Bank. Bank Sponsors should not construe this agreement as a guarantee in any way that the Agencies will ensure sale of Credits from this Bank or that the Agencies will forgo other Mitigation options that may also serve the public interest. Since the Agencies do not control the number of Mitigation Banks proposed or the resulting market impacts upon success or failure of

individual Banks, in depth market studies of the potential and future demand for Bank Credits are the sole responsibility of the Bank proponent.

O. Third Party Resale or Brokerage of Credits: In the event of third party resale or brokering of mitigation credits, the Banker remains responsible for the Bank and all applicable provisions of the approved MBI and Bank Development Plan. The Banker shall first notify the Chair prior to the transfer. Credits must be used in the same service area as the bank site that generated the credits. There is no guarantee that transferred credits will be approved by the Corps or DEQ for use with a specific permit. Approval by the Corps and/or DEQ for use of said credits as mitigation for a given permit is on a case-by-case basis.

The permit number shall be placed on every credit bill of sale. For bills of sale associated with bulk sales and other sales where there is no associated permit number, the Sponsor shall include a special provision in the bill of sale that states that those credits cannot be utilized to satisfy a Corps or DEQ permit requirement unless the broker (and any subsequent broker) provides a written "bank ledger allocation statement" to the Corps, DEQ, and the Sponsor. This bank ledger allocation statement will state that the associated credit(s) was part of a bulk sale to a specific party and has been allocated for use with _____ (named) project and _____ (specific) permit number.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

Date

INTERAGENCY REVIEW TEAM

By the IRT Chair:

U.S Army Corps of Engineers, Norfolk District Date

By: _____

Its: _____

By the IRT Co Chair(s):

Virginia Department of Environmental Quality Date

By: _____

Its: _____

Virginia Marine Resources Commission Date

By: _____

Its: _____

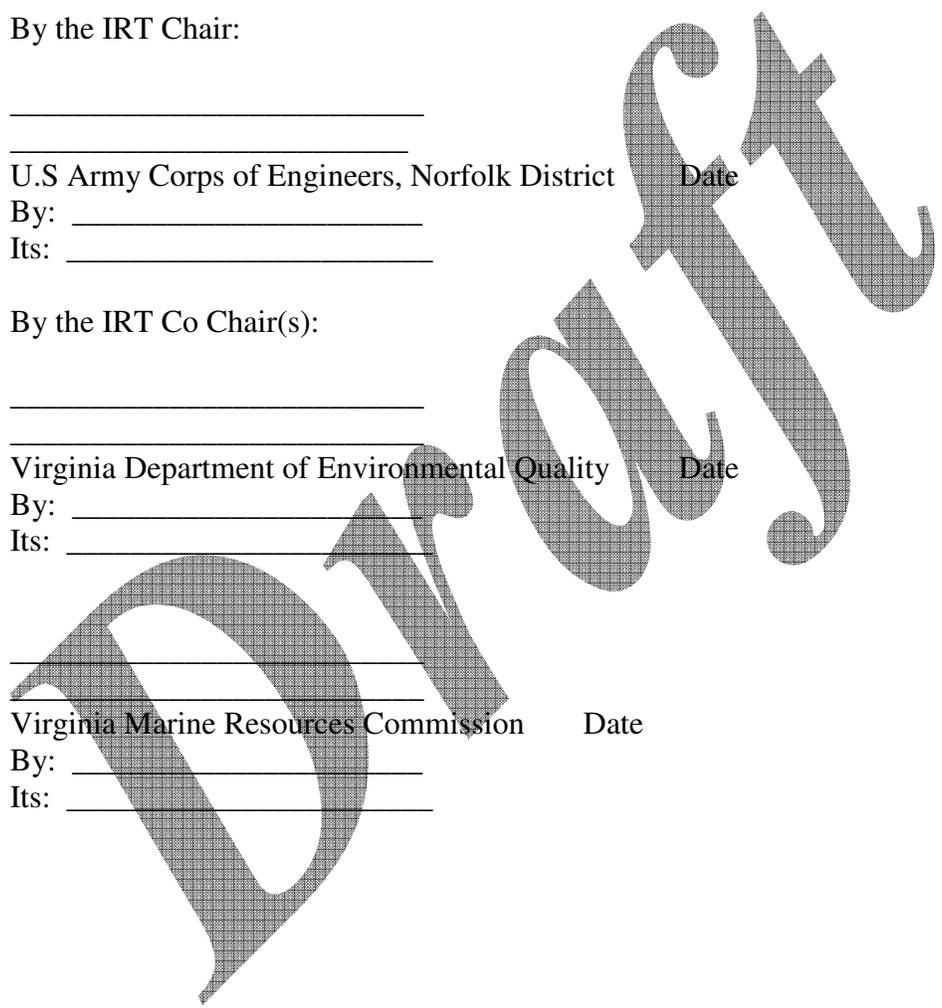


Exhibit C Bank Development Plan

I. Phasing

The Bank shall be planned and designed in phases. _____ phases have been identified to date, encompassing _____ acres of land along _____ waterway. Additional parcels in the _____ watershed may be contracted for purchase and proposed for inclusion in the _____ Bank by the Bank Sponsor by submission of a concept plan to the IRT.

II. Concept Plan of Initial Phase

A. Background

Careful consideration will be given to the ecological suitability of site for achieving goals and objectives.

Attached is a Concept Plan for Phase I prepared by _____ dated _____, consisting of the following sheets:

1. Cover Sheet with Location Map and Soils Map;
2. Existing Conditions with wetlands delineation survey, 6" C.I. topography and soil test pit locations;
3. Concept Grading Plan and Credit Analysis;
4. Soil test pit profiles;
5. Soil test results;

Based upon the hydric soils map, field borings of the soils, and discussions with the owner it appears that the areas proposed for Restoration/Creation were historically _____ areas. They were converted to _____ in order to _____ by a combination of:

1. Ditching,
2. Recontouring, and
3. Filling

B. Proposal

Restoration or enhancement of drained and degraded wetland areas and streams or creation of wetland areas to a high level of function shall be accomplished by a combination of practices, including but not limited to:

1. Filling or blocking of ditches,
2. Creation of low berms with outlet controls,
3. Regrading of high spots,
4. Removal of fill areas,

5. Herbicide treatments of non-native species, if required,
6. Discing and plowing of soils
7. Replanting of indigenous vegetation,
8. Fencing along adjacent agricultural uses;
9. Restoration of channels;
10. Stabilization of eroding banks;
11. Installation of grade controls

This proposal may also include the preservation of high quality wetland and/or streams and associated upland buffers .

Specific goals and objectives for each portion of the Mitigation Bank shall be specifically provided in the Mitigation Site Plan for each phase of the Bank.

III. Mitigation Site Plan

A. Submission and Approval

The Sponsor shall submit the Mitigation Site Plan to the IRT for each phase of the Bank and obtain approval of the IRT (in accordance with Section VI.B. of the Mitigation Banking Instrument), prior to commencement of construction activities.

B. Design Specifications

The Mitigation Site Plan shall include, at a minimum:

- a. Narrative describing the nature of the wetland Mitigation concept.
- b. Grading plans at a scale of 1" = 50' and providing 0.5 ft contour intervals in Restoration areas (or metric equivalent), or at a more detailed scale. Plans shall use the correct vertical datum, NOS in tidal Mitigation areas and NGVD 88 in non-tidal areas.
- c. Erosion and Sediment Control Plans, in accordance with the _____ County/City Design and Construction Standards Manual and the most current edition of the Virginia Erosion and Sediment Control Handbook
- d. The goals and objectives in terms of water quality, flood storage, and/or habitat benefits
- e. A detailed location map, including the latitude and longitude and the hydrologic unit code (HUC) at the center of the site.
- f. A GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank

In addition, the Wetland Mitigation Site Plan shall include at a minimum,:

- a. Water budget for a typical, wet, and dry year that includes, on a monthly basis:
 - (1) Inputs
 - (a) Precipitation
 - (b) Infiltration
 - (c) Surface Flow Runoff

- (2) Outputs
 - (a) Evapotranspiration
 - (b) Exfiltration
 - (c) Spillway Outflow
- e. Vegetation plan depicting or listing expected zonation (i.e., POWZ, PEM, PS/S, and PFO). The habitat design goal will be to maximize the Restoration of _____ aquatic resource areas.
- f. Vegetation schedule with plants and seeds selected based on habitat value and projected water elevation and duration. Said schedule shall include:
 - (1) Species;
 - (2) Wetland indicator status as specified in the current version of the *National List of Plant Species That Occur in Wetlands: Northeast (Region 1)*
 - (3) Plant size and spacing; and
 - (4) Wildlife value assessment.

Understory vegetation shall primarily comprise of a herbaceous wetlands seed mix (at least ten (10) native species commonly found in region) to reflect the expected community type during the initial growth years of tree and shrub seedlings.

Bare root tree seedlings and shrubs shall be randomly planted in Restoration areas, and comprised of at least 5 of the following species: _____, _____, _____, _____, _____.

- g. A surveyed wetland delineation, in accordance with the Corps' 1987 Manual, of existing wetlands areas of each phase.
- h. A credit analysis based on the Mitigation Site Plan for the subject phase, utilizing the methodology described in Exhibit D Section II of this Agreement, to estimate the expected number of Credits that will be created by the plan.

The Stream Mitigation Site Plan shall also include, at a minimum:

- a. The proposed stream segment restoration locations, including plan view and cross-section sketches.
- b. The stream deficiencies that need to be addressed.
- c. The proposed restoration measures to be employed, including channel measurements, proposed design flows, and types of instream structures.
- d. If available, reference stream data.

- e. Vegetation schedule with plants and seeds selected based on habitat, water quality, and stream stability value. Said schedule shall include:
- (1) Species;
 - (2) Plant size and spacing; and
 - (3) Wildlife value assessment.

The vegetation shall primarily comprise of a herbaceous wetlands seed mix (at least ten (10) native species commonly found in region) to reflect the expected community type during the initial growth years of tree and shrub seedlings. Bare root tree seedlings and shrubs shall be randomly planted in Restoration areas, and comprised of at least 5 of the following species: _____, _____, _____, _____.

- h. A credit analysis based on the Mitigation Site Plan for the subject phase, utilizing the methodology described in Exhibit D Section II of this Agreement, to estimate the expected number of Credits that will be created by the plan

C Monitoring

(Detail the specific monitoring activities used to satisfy Success Criteria identified in Section IV E of the Bank Instrument, including methodology for monitoring soil, vegetation, and hydrology criteria such as numbers of monitoring wells, placement of stream gauges, plant sampling strategies, etc.)

D Maintenance Activities

(Include likely maintenance activities such as posting of Property limit, maintenance of fences, water control structures, access roads, plantings, mowing, or the use of approved herbicides)

Exhibit D
Crediting and Debiting Procedure for the Bank

I. Impact Debit Values

The Cowardin system of wetland classification shall be utilized to determine the maximum number of wetland Credits that may be Debited from the Bank. This maximum number of Credits may be modified by the IRT based on the age, and status of construction of the Mitigation areas. The U.S. Army Corps of Engineers (“Corps”) and the Virginia Department of Environmental Quality (“DEQ”) shall determine the appropriate and specific number of Mitigation Credits necessary to be Debited against the Bank to achieve no net loss of Functions and values during the permit process based upon their use of methods determined to be appropriate by said agencies, of the impact areas and the status of this Bank. *[This section should include discussion of stream credits as well]*

II. Mitigation Credit Creation

A. Pre- Construction

Mitigation Credits shall be created by development of a Mitigation area in substantial conformance with the Mitigation Site Plan described in Exhibit C (Bank Development Plan) of the Banking Instrument. The number of Credits created by this Mitigation Bank shall initially be based upon the Mitigation Site Plan. Credits may then be adjusted by the IRT if as-built conditions differ substantially from the areas projected in the Mitigation Site Plan projections as determined by the IRT acting through the IRT Chair. Adjustments may include changes in the number of available Credits, credit composition, or minimum credit ratios associated with use of the Bank. Each acre of land area within the Property described in Exhibit B shall be designated by the Mitigation Site Plan as to which types of land forms, as classified by the Cowardin System, shall be restored or created by grading and/or water impoundment. The number of Credits created by this plan shall be based on community or cover type and the use of the Unified Stream Methodology.

The exact number of Credits created is determined by the Mitigation Site Plan and adjusted based upon final as-built conditions. The number of Credits is estimated to be: _____ wetland credits and _____ stream credits.

B. Post-Construction

During or after the tenth growing season, the Corps, acting in consultation with the IRT, may assess the Functions and values of this ecological system (or when requested to do so by the Sponsor). The IRT may issue a written determination to the Sponsor that due to the demonstration of successful performance, the number of Credits attributable to this Mitigation Bank may be modified to reflect the Functions and values provided.

C. Open Water

Any created Open Water areas shall be accounted for separately from the wetland Credits available at the _____ Wetlands Bank. When an impact in the service area of the Bank to Open Water occurs, DEQ and/or the Corps may allow a permittee to purchase a portion of any open water on the Mitigation Bank site as off-site Mitigation for said impact permitted under permits issued under the Clean Water Act and/or Virginia Water Protection Permit.

III. Accounting Procedures

A. The Sponsor shall comply with the accounting procedures described in Section VI D. of the Banking Instrument and the quantitative assessment of Credits and Debits for permitted impacts as described herein.

B. In no event shall the cumulative total area of impacts to Waters of the U.S. permitted to use Credits from the Mitigation Bank exceed the total area of Waters of the U.S. created by this Mitigation Bank.

C. If the Mitigation Bank is constructed in Phases, the accounting of Credits shall duly reflect this phasing of work.

Exhibit F

The restrictive covenant should mirror the acceptable land uses contained in the MBI as well as providing for support activities and the ability to modify the covenant with the approval of the IRT. One example is attached:

DECLARATION OF RESTRICTIONS

OF

(Owner)
_____, VIRGINIA

THIS DECLARATION OF RESTRICTIVE COVENANTS, is made this ____ day of _____, 2003, by _____, Owner.

WHEREAS, (_____) is the owner of the Property more fully described on Exhibit A attached hereto; it being the same Property conveyed to _____, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the _____ of _____ in Deed Book _____, at page _____).

WHEREAS, (_____) desires to comply with the respective conditions of the Banking Instrument between: the _____; the Interagency Review Team (the "IRT") which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); and the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Institute of Marine Sciences ("VIMS"); dated _____, 20__, by imposing this Restrictive Covenant on the Property that may consist of preserved wetlands, restored wetlands, enhanced wetlands, created wetlands, uplands, and areas to be converted into wetlands.

WHEREAS, (_____) desires to impose on said Property restrictive covenants expressing (_____) 's intent to preserve _____ acres of said Property as shown on Exhibit B and as described as _____ Bank in perpetuity as detailed below. These covenants are imposed by the Owner freely and voluntarily.

NOW THEREFORE THIS DECLARATION WITNESSETH: (_____) does hereby declare, covenant and agree, for itself and its successors and assigns, that said Property described as _____ shown on Exhibit B shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions.

The Property described as _____ shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by prohibiting the following activities:

1. Destruction or alteration of the area shown on Exhibit B except:

- (a) alteration necessary to construct the wetland Mitigation areas and associated improvements, such as dams, outlet structures and spillways, nature trails, and interpretive stations, proposed to be built by _____, or its successors, and/or assigns, for the “_____Bank” as approved in the Mitigation Banking Instrument;
- (b) alteration necessary to ensure the success of the _____ Bank including monitoring, reconstruction or maintenance of the constructed Mitigation areas;
- (c) alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts (spaced in a manner so that neither the posts nor the fence itself prevents the natural movement of water), fish ladders, and, ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, water control weirs or interpretive stations, or other structures approved by the IRT, provided that
 - (i) any such structures permit, and do not impede, the natural movement of water, and
 - (ii) such facilities are constructed and maintained in accordance with all applicable federal and state laws;
- (d) addition of signs constructed in public right of ways by or on behalf of the Virginia Department of Transportation or other governmental agencies;
- (e) removal of vegetation (where not precluded by federal or state law) when conducted for
 - (i) removal of noxious or invasive plants or
 - (ii) public safety purposes
- (f) planting of native species of wetlands plants by hand for aesthetic landscaping or screening purposes; and
- (g) alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills including but not limited to buildings, building pads, and mobile homes, other than those, which currently exist.

3. Ditching, draining, diking, damming, filling, excavating, grading, plowing, flooding/ponding, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior written approval by the IRT) other than any authorized under the Banking Instrument;

4. Permitting livestock to graze, inhabit or otherwise enter the Preservation area.

(Delete if not appropriate)

5. Harvesting, cutting, logging, and pruning of trees and plants, or using fertilizers and spraying with biocides other than what is authorized by the Banking Instrument (except as may be necessary on a case-by-case basis with prior approval by the IRT);

6. Utilizing a non-reporting Nationwide Permit or State Program General Permit under Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Water of the U. S., or any State Waters on the Property. Notification shall be required for the use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

Amendment

The covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the IRT. The Owner or its successor may apply to the IRT for vacation or modification of this declaration; however, after recording, these restrictive covenants may only be amended or vacated by a recorded document signed by the signatory members of the IRT and the Owner or its successor in interest.

Compliance Inspections and Enforcement

The IRT, and its authorized agents shall have the right to enter and go on the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the Corps or DEQ. Failure by any agency (or owner) to enforce any covenant or restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Consent of Lender and Trustee (if applicable)

Owner is the maker of a note dated _____, secured by, among other things, a deed of trust dated _____, from Owner to _____, as trustee, recorded in the Clerk’s office at Deed Book _____, Page _____. For the benefit of _____ Bank (the “Deed of Trust”), _____, trustee joins herein for the sole purpose of subordinating the lien, dignity and priority of the Deed of Trust to these restrictive covenants. _____ Bank joins herein for the sole purpose of consenting to trustee’s action.

WITNESS the following signature the day and year first above written.

[_____]

BY: Its General Partner

BY: _____

TITLE: _____

Commonwealth of Virginia, City of _____, to wit:

I, _____, a notary public for the state and city aforesaid, do certify that [Name] [Title] whose name was signed on _____, 20__ in his capacity on that date to the foregoing document has acknowledged said document and signature before me in the city aforesaid.

Given under my hand and notarial seal this _____ day of _____, 20__.

Notary Public

My commission expires _____.

Bank

Trustee.

Exhibit A

Legal description of Property.

Exhibit B

Plat Map and /or Legal description of preserved area. If Plat is oversized and will be recorded separately, Exhibit B should contain a description that includes the reference to the Plat Book and Page number where the plat is recorded.

Exhibit G**Escrow Agreement**

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into as of the _____ day of _____, 20__ by and among _____, a Virginia limited liability Corporation ("Sponsor"), and _____ (Escrow Agent) specifically described herein, governs distribution of escrow funds associated with the _____ Mitigation Banking Instrument as described below:

STATEMENT OF PURPOSE

Sponsor has entered into the _____ Wetland Mitigation Banking Instrument with the _____ Interagency Review Team (IRT), which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Institute of Marine Sciences ("VIMS"), represented by its Chair, the Corps, dated as of the ____ day of _____, 20__ ("Banking Instrument"), such Bank consisting of approximately ____ acres of land located in _____ County, Virginia, as more particularly described in the Banking Instrument (the "Property"). The Sponsor desires to have the Escrow Agent hold certain funds in escrow and distribute said funds resulting from the sale of Mitigation Credits as required under the Banking Instrument and pursuant to the terms of this Escrow Agreement.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. Appointment. The Sponsor hereby appoints the law firm or title company of _____ as Escrow Agent hereunder, and by its execution thereof, _____ agrees to accept such appointment.
2. Mitigation Sale Proceeds. Sponsor shall cause all required funds from any Mitigation Sale Proceeds relating to the Property to be delivered and deposited in escrow with the Escrow Agent as required by Section IV.D. of the Banking Instrument. The Escrow Agent agrees to immediately deposit said funds in an escrow account at a federally insured depository institution, and to hold and only disburse said funds, and any interest earned thereon (together the "Mitigation Sales Proceeds") as hereinafter provided.
3. Notification of Receipt of Mitigation Sale Proceeds. Upon receipt of any Mitigation Sale Proceeds, Escrow Agent shall provide written confirmation to the

Sponsor of receipt of such funds. The Sponsor shall forward copies of this confirmation to the following organizations:

Corps of Engineers

4. Notification of Disbursement of Funds from Escrow Account. The Sponsor, the IRT, acting through the Chair, and/or the Long-Term Steward (if one has been designated) shall only request that Escrow Agent disburse said funds in accordance with the criteria established in Sections IV.D., IV. E., and VI. F, H, I, and J. of the Banking Instrument as necessary. The Escrow Agent agrees that it shall only honor requests for disbursements that are made in writing. A copy of each request for disbursement shall be simultaneously sent by the Sponsor, IRT, or Long-Term Steward to:

Upon receiving written approval from the IRT Chair for the requested disbursement, the Escrow Agent shall release said funds requested by the Sponsor, the IRT, or the Long-Term Steward (If one has been designated) within 5 days of receiving said approval.

5. Instructions. Escrow Agent is instructed and directed by the parties to comply with Section IV.D and E and Section VI. F, H, I, and J. of the Banking Instrument and by its execution hereof agrees to comply with Section IV.D and E and Section VI. F, H, I, and J of the Banking Instrument.

6. Duties of Escrow Agent/Exculpation. The Sponsor agrees that in performing any of its duties under this Agreement, that Escrow Agent shall not be liable to the Sponsor for any loss, costs or damage that may incur as a result of its service as Escrow Agent hereunder, except for any loss costs or damage arising out of its willful default or negligence. Accordingly, Escrow Agent shall not incur any liability with respect to (a) any action taken or admitted to be taken in good faith upon advice of its counsel given with respect to any questions relating to its duties and responsibilities, or (b) to any action taken or admitted to be taken in reliance upon any document, including any written notice of instruction provided for in this Escrow Agreement, not only as to its due execution and validity and effectiveness of its provisions, but also as to the truth and accuracy of any information contained therein, which Escrow Agent shall in good faith believe to be genuine, believes to have been signed or presented by a proper person or persons and, in good faith believes to conform with the provisions of this Escrow Agreement.

7. Indemnification. The Sponsor hereby agrees to indemnify and hold harmless the Escrow Agent and any and all of its partners acting hereunder, against any and all losses, claims, damages, liabilities and expenses, including, without limitation, reasonable attorneys' fees and disbursements, which may be imposed upon or incurred by Escrow Agent in connection with its service as Escrow Agent, unless such losses, claims, damages, liabilities and expenses are the result of Escrow Agent's willful default or negligence.

8. Disputes. In an event of dispute between the Sponsor and the IRT or-the IRT Chair, sufficient in the discretion of Escrow Agent to justify its doing so, Escrow Agent shall be entitled to tender unto the registry or custody of any court of competent jurisdiction all money or Property held by it under the terms of this Escrow Agreement, together with such legal pleadings as it deems appropriate and immediately thereupon it should be discharged from all duties and responsibilities hereunder.

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed and sealed as of the day and year first above written.

By: _____
XXXXXX

AND BY: _____
XXXXXXXX

Draft